



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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THOMAS V. SKINNER, DIRECTOR

217.782.6762

May 7, 2001

Mr. Kevin Turner
U.S. EPA
c/o Crab Orchard National Wildlife Refuge
8588 Route 148
Marion, IL 62959

Reference: 1630200005 St. Clair County
Sauget Area 1 Site
Superfund/Technical
Time Critical Removal Action Work Plan
Administrative Order dated May 31, 2000; Docket No.: V-W-99-C-554
TSCA Containment Cell Design Report

Dear Mr. Turner:

The purpose of this letter is to provide you with a paper version of Rob Watson's review comments and review notes on the referenced project. It is my understanding that Rob sent an electronic version of his comments and notes to you today.

If you have any questions, please call me at 217.785.9397 or Rob at 217.524.3265.

Sincerely,

Candy Morin, Remedial Project Manager
National Priorities List Unit
Federal Site Remediation Section
Division of Remediation Management
Bureau of Land

Enclosure

GEORGE H. RYAN, GOVERNOR

cc w/enclosure: Mike McAteer, EPA Region V
W. Rob Watson, IEPA
Mike Henry, IDNR
Kevin de la Bruere, USFWS

sgtarea1/design05.01

**1630200005 – St. Clair County
Sauget Area 1, Dead Creek
Sediment Containment Cell
Superfund/Technical File**

Reviewer: Rob Watson

Review Dates: May 7, 2001

COMMENTS

Introduction

The following comments are on the Sauget Area 1 TSCA Containment Cell Design Report submitted by Solutia on April 2, 2001.

Format of Comments

These comments follow the format of Solutia's responses to comments. Those comments that were not adequately addressed are indicated below together with several additional comments identified during the review of this document.

Part II Comments

Comment 2: Section 2 of the Design Report should include wording that indicates a groundwater monitoring plan for the TSCA containment cell is being reviewed concurrently with the construction of the containment cell.

Comment 10: The response to Comment 10 states Section 5.0 will be revised to include a paragraph that indicates the sediments placed against the side slopes will be screened to remove sharp objects and other materials larger than 2 inches. First, it appears that Section 4 is a more appropriate location for this wording. However, I could not locate the referenced paragraph in either Section 4 or 5. Second, although the wording in Section 3.3.F in Specification 02225 was revised to address this issue, it does not specifically state that the 2 foot buffer layer of screened sediments will extend up the entire length of the side slope. The wording in Specification 02225 should be revised to more closely resemble the paragraph in the response to Comment 10.

Comment 33: The following comments pertain to the leachate detection system:

- a. The paragraph describing the high-level alarm system for the leachate detection system should be moved from the end of Section 4.5.4 to Section 4.5.1.
- b. Section 4.5.1 needs to discuss the sizing of the leachate detection sump.
- c. Figure 4-9 needs to be revised to include the leachate detection sump.
- d. It appears that the portion of response to Comment 33 (originally provided in the November 3, 2000 submittal) that pertains to maximum leachate head and Section 4.5.4 is more appropriate for Comment 37 than it is for Comment 33.

Comment 36: The narrative in Section 4.5.3 needs to indicate that the design of the leachate collection system consists of 18 inches of sand on top of a geotextile/geonet. In addition, the narrative needs to indicate which calculations in Appendix C demonstrate the leachate head on the primary liner system will not exceed 12 inches.

Comment 37: The HELP model for the closed landfill does not include the geotextile/geonet layer portion of the revised leachate collection system.

Comment 55: Specifically, which geosynthetic products from which manufacturers will be used in the construction of the containment cell?

Comment 66: Section 2.4.4 of the CQA Manual for Geosynthetic Components (Appendix F) needs to be revised to indicate that the geomembrane is deployed as indicated in Section 3.4 of Specification 02244. That is, on the side slopes, the rolls of geomembrane should be deployed down slope in a controlled manner. Rolls of geomembrane should not be pulled up a side slope.

Comment 66: Section 6.4 of the CQA Manual for Geosynthetic Components (Appendix F) indicates GCL panels only need to be overlapped 4 inches. This is not acceptable. This section of the CQA Manual needs to be revised to indicate that GCL panels must be overlapped a minimum of 6 inches as indicated in Section 3.3 of Specification 02246.

Comment 66, 70: Section 6 of the CQA Manual for Geosynthetic Components (Appendix F) needs to include wording that requires the CQA Officer to look for the following items:

- a. Rolls of GCL should not be stored on the ground prior to installation.
- b. All GCL deployed in a given day must be covered with either a geomembrane or 12 inches of approved soil cover.

Comment 78: Section 4.2.4 of the CQA Manual for Soil Components (Appendix G) states that borrow soils that are lower than the TACO Tier 1 criteria for industrial/commercial area soils can be used for construction of the containment cell. This is acceptable so long as the notice in the deed for the closed landfill (see RCRA closure / post-closure requirements) clearly states that contaminated materials were used for the construction of the containment cell. This additional wording in the notice in the deed for the site would not be required if the borrow soils are at or below the TACO Tier 1 criteria for residential soils.

Comment 84: The following comments are related to Comment 84:

- a. The calculations for Q_{\max} in Appendix D (the first set of calculations under Cover System Stormwater Control) are not legible. A darker copy of these calculations needs to be provided.
- b. It was my understanding that the downchute along the north berm was to be grass with riprap. Figures 5-1 and 5-6 seem to confirm this conclusion. However, the calculations for a concrete downchute are still in Appendix D. Calculations demonstrating that the

grass/riprap design can accommodate the flow from a 25-year, 24-hour storm event, and not be subject to excessive erosion, need to be provided in Appendix D. If a concrete downchute will be used, Figures 5-1 and 5-6 need to be revised to show the concrete downchute.

- c. A detail drawing (like Figure 5-8) of the downchute outlet, and its relationship to Dead Creek needs to be provided. Figure 5-8 is titled "Downchute Outlet Detail," but it is actually the downchute inlet.
- d. The responses to Comment 84 in Part II (Item 89) and Part II, Group II (Item 118) need to be revised since they still do not address each portion of the comment individually.

Part II, Group II Comments

Comment 11: In the October 10, 2000 meeting and the January 15, 2001 response to comments Part II, Group II, Solutia agreed, that to the extent practicable, the more highly contaminated material (e.g. Segment B sediments) would be placed more to the middle of the fill, not near the bottom or sides in an effort to better protect the soils and groundwater outside of the landfill. The narrative in the Design Report (Section 4) and Specification 02225 need to be revised to include this provision.

Comment 32: It would be helpful if Section 4.5.1 included a brief description of the design and location of the warning light(s) for the leachate high-level alarms. Specifically, it is recommended that each system have its own warning light. These lights should be within the security fence, but still readily visible to an inspector as they approach the site. For example, if they were located near the construction trailers, an inspector could determine if there was an alarm (high leachate level) without having to gain access to the site.

Comment 57: Solutia's response to this comment in the January 15, 2001 correspondence states that the GCL calculations (GCL Loading and Liner System Stability) will be modified to include consideration of the internal friction angle of the GCL material. The GCL calculations in the April 2, 2001 Design Report submittal do not include the internal friction angle of the GCL material. I could not locate GCL calculations for loading or slope stability subsequent to January 15, 2001 that address this comment.

Comment 61: The Table of Geonet Properties in Specification 02246, and Table 1 in Appendix F, indicates the minimum value for transmissivity is 1cm/sec. These portions of the document (and Section 4.1.1) need to be revised to reflect the transmissivity value indicated in the calculations in Appendix C. The units (cm/sec) also need to be corrected to cm²/sec or m²/sec.

Comments 64/65: The response to this comment states the narrative will be revised and references Section 3.3 (of Specification 02246). It does not appear that the narrative to the Design Report (Section 3.3 or elsewhere) was revised. The main question remains, is the CQA Consultant required to collect quality control samples, or just observe the sampling done by the contractor? In either case, Section 1.3.5.1 of Appendix F and Section 2.3.4.1 of Appendix G

need to be revised to clarify this duty. Wording in the Specifications in Appendix E may also need to be revised if the CQA Consultant is responsible for sample collection.

Comment 68: The minimum internal friction angles for both types of GCLs are not included in Table 1 in Appendix F.

Part III Comments

Comment 22: The laboratory testing data summary for borings GB-1, through GB-4 and PZ-1 presented as Table 1 in the December 2, 1999 site characterization report was omitted from the final version. This information needs to be included in the final version of the report.

Comment 25: Section 4.2.6 states that the highest groundwater elevation observed at the site was over 8 feet below the proposed secondary liner elevation (now at elev. 398.8 feet). The information in Table 2 of Appendix A, and on the geologic cross section in the November 3, 2000 submittal, indicates this statement is not correct (Table 2 indicates groundwater was as high as 397 feet). Therefore, the narrative in this section should be revised, as it is misleading.

Comment 60: Tables 1 and 2 in Specification 02245 (GCLs) the April 2, 2001 Design Report are not the same as the Tables in Appendix 13 in the January 22, 2001 Response to Comments Part III submittal. The record of comments to the draft design report does not indicate a reason for this difference. While it is acceptable, and even preferable, to have separate tables for the two GCLs that will be used, the specification for the minimum internal friction angle that was in the Response to Comments Part III were omitted from the tables in Revision 2 of Specification 02245. Several other changes were also made to this specification. Therefore, Specification 02245 and Section 6.2 (where applicable) need to be revised to address the following comments:

- a. Table 1 in the Response to Comments Part III that defined the properties of the Bentonite and geotextiles used in the GCL should be included in Specification 02245 – for both GCLs.
- b. Some explanation needs to be provided for why the required value for grab strength was reduced from 150 to 90 lbs and the frequency for testing permeability changed from 1/1,000,000 ft² to weekly in Specification 02245.
- c. The minimum internal friction angle (hydrated internal residual shear resistance), testing frequency, etc. need to be provided for both GCLs.
- d. Section 3.3, Installation, in Specification 02245 needs to clearly state which GCL gets installed on the base of the landfill, which one goes on the side slopes, and if on side of the GCL is required to be on top.
- e. Section 6.2 Conformance Testing of GCLs in Appendix F needs to be revised to state that conformance tests will be performed in accordance with the test methods and frequencies indicated in the specifications. The wording “other tests required by the project

specifications” in this section should be revised to clearly indicate what these other tests are. Also, note that the minimum value and testing frequency for thickness are not specified in Specification 02245.

- f. The conformance testing in Section 6.2 of Appendix F needs to be revised to include determination of the internal friction angles of both GCLs once they are on-site.

New Comments

Appendix F: Section 7, Liner System Acceptance, of the CQA Manual for Installation of Geosynthetic Components is missing.

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**1630200005 – St. Clair County
Sauget Area 1, Dead Creek
Sediment Containment Cell
Superfund/Technical File**

Reviewer: Rob Watson

Review Dates: April 12, 2001 to May 7, 2001

REVIEW NOTES

Introduction

At the request of USEPA, the Illinois EPA BOL Permit Section is assisting in the technical review of the Time Critical Removal Work Plan (TCRWP), Dead Creek Sediment and Soil in Sauget and Cahokia, Illinois. The initial submittal of this document was dated June 30, 2000. The focus of my review was the Containment Cell Design Report in Appendix 7.

Comments on the TCRWP (including the Design Report) by Illinois EPA, DNR, USFWS, and USEPA were sent to Solutia in mid-August 2000. Solutia considered these comments Part I comments. My comments on the Design Report were sent to USEPA and Solutia on August 31, 2000. These comments were considered Part II comments. Solutia divided the comments up into several groups and provided responses to comments from November 2000 through February 2001. These responses were incorporated into the document, and on April 2, 2001, Solutia provided the final version of the Sauget Area 1 TSCA Containment Cell Design Report.

The focus of my review, this time, is solely to determine whether each response to the Part II comments was properly included into the final version of the Design Report. A technical review was not specifically performed. Terri Blake Myers is responsible for conducting a concurrent review of the groundwater monitoring program for the containment cell.

Format of Review Notes

These review notes follow the format of Solutia's responses to comments. Only those comments that were not adequately addressed are indicated below. Those comments that were adequately addressed in the April 20, 2001 conference call are included in the notes, but not sent to Solutia as comments on the final version of the Design Report.

Level of Review

Due to the limited review time allowed for this project, the references, assumptions and equations provided in the Design Report were generally taken at face value and not fully evaluated.

Part II Comments

Comment 2: Section 2 of the Design Report should include wording that indicates a groundwater monitoring plan for the TSCA containment cell is being reviewed concurrently with the construction of the containment cell.

Note: The groundwater monitoring program should be in place, with at least one round of background samples collected, prior to placement of wastes in the containment cell. Per discussion with Kevin Turner, this point will not be specifically made in the comment to Solutia.

Note: the response to Comment 8, and Section 4.1.1 states the HDPE geomembrane for the primary liner will be smooth surfaced and the HDPE geomembrane for the secondary liner will be textured

Comment 10: The response to Comment 10 states Section 5.0 will be revised to include a paragraph that indicates the sediments placed against the side slopes will be screened to remove sharp objects and other materials larger than 2 inches. First, it appears that Section 4 is a more appropriate location for this wording. However, I could not locate the referenced paragraph in either Section 4 or 5. Second, although the wording in Section 3.3.F in Specification 02225 was revised to address this issue, it does not specifically state that the 2 foot buffer layer of screened sediments will extend up the entire length of the side slope. The wording in Specification 02225 should be revised to more closely resemble the paragraph in the response to Comment 10.

Comments 32, 33, 34: The elevations of liquids in the leachate collection, detection, and capillary break systems that will actuate the high level alarm and initiate pumping should be identified in the narrative in Section 4.5.1. The timing of liquid removal (e.g. same day) from these systems should also be discussed in this section.

In addition, the document should indicate where the high level alarms will be placed (i.e. in the gravel, or perforated piping in the sump. It is important that O&M of the alarms be considered during the design of the system.

OK per the April 20, 2001 conference call. URS indicated the high level alarms will be located in the leachate collection/removal pipes at the alarm elevations. The alarms will either be removed when pumps are lowered into the pipes, or they will be attached to dedicated pumps at the necessary elevation. Section 4.5.1 will be revised to include a description of where the alarms will be located and how they will be operated.

Comment 33: The following comments pertain to the leachate detection system:

- a. The paragraph describing the high-level alarm system for the leachate detection system should be moved from the end of Section 4.5.4 to Section 4.5.1.
- b. Section 4.5.1 needs to discuss the sizing of the leachate detection sump.
- c. Figure 4-9 needs to be revised to include the leachate detection sump.

- d. It appears that the portion of response to Comment 33 (originally provided in the November 3, 2000 submittal) that pertains to maximum leachate head and Section 4.5.4 is more appropriate for Comment 37 than it is for Comment 33.

Comment 36: The narrative in Section 4.5.3 needs to indicate that the design of the leachate collection system consists of 18 inches of sand on top of a geotextile/geonet. In addition, the narrative needs to indicate which calculations in Appendix C demonstrate the leachate head on the primary liner system will not exceed 12 inches.

Comment 37: The HELP model for the closed landfill does not include the geotextile/geonet layer portion of the revised leachate collection system.

Comment 55: Specifically, which geosynthetic products from which manufacturers will be used in the construction of the containment cell?

Comment 66: Section 2.4.4 of the CQA Manual for Geosynthetic Components (Appendix F) needs to be revised to indicate that the geomembrane is deployed as indicated in Section 3.4 of Specification 02244. That is, on the side slopes, the rolls of geomembrane should be deployed down slope in a controlled manner. Rolls of geomembrane should not be pulled up a side slope.

Note: this method of deployment is specified for GCLs in Appendix F, the same should be done for the geomembranes.

Comment 66: Section 6.4 of the CQA Manual for Geosynthetic Components (Appendix F) indicates GCL panels only need to be overlapped 4 inches. This is not acceptable. This section of the CQA Manual needs to be revised to indicate that GCL panels must be overlapped a minimum of 6 inches as indicated in Section 3.3 of Specification 02246.

Comment 66, 70: Section 6 of the CQA Manual for Geosynthetic Components (Appendix F) needs to include wording that requires the CQA Officer to look for the following items:

- a. Rolls of GCL should not be stored on the ground prior to installation.
- b. All GCL deployed in a given day must be covered with either a geomembrane or 12 inches of approved soil cover.

Comment on Section 4.2.4 of Appendix G

On April 26, 2001 Joyce Munie and I discussed the use of soils contaminated up to TACO Tier 1 Industrial/Commercial levels in construction of the containment cell. We concurred that borrow soils contaminated at or below these levels could be used in construction of the containment cell, and for the vegetative cover layer, provided the notice in the deed to the landfill included wording that indicated such. The concern is that future landowners may want to use the surface of the landfill for recreational purposes, like a golf course. This type of use would not be consistent with soils contaminated to TACO Tier 1 industrial/commercial concentrations.

Comment 78: Section 4.2.4 of the CQA Manual for Soil Components (Appendix G) states that borrow soils that are lower than the TACO Tier 1 criteria for industrial/commercial area soils can

be used for construction of the containment cell. This is acceptable so long as the notice in the deed for the closed landfill (see RCRA closure / post-closure requirements) clearly states that contaminated materials were used for the construction of the containment cell. This additional wording in the notice in the deed for the site would not be required if the borrow soils are at or below the TACO Tier 1 criteria for residential soils.

Comment 84: The following comments are related to Comment 84:

- a. The calculations for Q_{\max} in Appendix D (the first set of calculations under Cover System Stormwater Control) are not legible. A darker copy of these calculations needs to be provided.
- b. It was my understanding that the downchute along the north berm was to be grass with riprap. Figures 5-1 and 5-6 seem to confirm this conclusion. However, the calculations for a concrete downchute are still in Appendix D. Calculations demonstrating that the grass/riprap design can accommodate the flow from a 25-year, 24-hour storm event, and not be subject to excessive erosion, need to be provided in Appendix D. If a concrete downchute will be used, Figures 5-1 and 5-6 need to be revised to show the concrete downchute.
- c. A detail drawing (like Figure 5-8) of the downchute outlet, and its relationship to Dead Creek needs to be provided. Figure 5-8 is titled "Downchute Outlet Detail," but it is actually the downchute inlet.
- d. The responses to Comment 84 in Part II (Item 89) and Part II, Group II (Item 118) need to be revised since they still do not address each portion of the comment individually.

Part II, Group II Comments

Comment 11: In the October 10, 2000 meeting and the January 15, 2001 response to comments Part II, Group II, Solutia agreed, that to the extent practicable, the more highly contaminated material (e.g. Segment B sediments) would be placed more to the middle of the fill, not near the bottom or sides in an effort to better protect the soils and groundwater outside of the landfill. The narrative in the Design Report (Section 4) and Specification 02225 need to be revised to include this provision.

Comments 12 & 18: Neither the bedrock surface map, Figure 3-4, or the geologic cross section of the site, Figure 3-5 was not provided. The geologic cross section also needs to show the location and elevations of the landfill, the formations under the unit, the historic high levels of the groundwater and the seasonal fluctuations in the water table measured in the piezometers and monitoring wells at or near the site. In addition, the locations of the borings and monitoring wells used to develop the cross section need to be indicated on a plan view of the area/region. Note: the revised geologic cross section was suppose to be provided with the Part III, Group III submittal dated February 16, 2001, but was not provided at that time.

Per the April 20, 2001 conference call, these figures will be sent out right away along with a revised table of contents.

Comment 32: It would be helpful if Section 4.5.1 included a brief description of the design and location of the warning light(s) for the leachate high-level alarms. Specifically, it is recommended that each system have its own warning light. These lights should be within the security fence, but still readily visible to an inspector as they approach the site. For example, if they were located near the construction trailers, an inspector could determine if there was an alarm (high leachate level) without having to gain access to the site.

Comment 57: Solutia's response to this comment in the January 15, 2001 correspondence states that the GCL calculations (GCL Loading and Liner System Stability) will be modified to include consideration of the internal friction angle of the GCL material. The GCL calculations in the April 2, 2001 Design Report submittal do not include the internal friction angle of the GCL material. I could not locate GCL calculations for loading or slope stability subsequent to January 15, 2001 that address this comment.

Comment 61: The Table of Geonet Properties in Specification 02246, and Table 1 in Appendix F, indicates the minimum value for transmissivity is 1cm/sec. These portions of the document (and Section 4.1.1) need to be revised to reflect the transmissivity value indicated in the calculations in Appendix C. The units (cm/sec) also need to be corrected to cm²/sec or m²/sec.

Comments 64/65: The response to this comment states the narrative will be revised and references Section 3.3 (of Specification 02246). It does not appear that the narrative to the Design Report (Section 3.3 or elsewhere) was revised. The main question remains, is the CQA Consultant required to collect quality control samples, or just observe the sampling done by the contractor? In either case, Section 1.3.5.1 of Appendix F and Section 2.3.4.1 of Appendix G need to be revised to clarify this duty. Wording in the Specifications in Appendix E may also need to be revised if the CQA Consultant is responsible for sample collection.

Comment 68: The minimum internal friction angles for both types of GCLs are not included in Table 1 in Appendix F.

Part III Comments

Comment 18: See earlier discussions on this comment and the geologic cross section Figure 3-5.

Comment 22: The laboratory testing data summary for borings GB-1, through GB-4 and PZ-1 presented as Table 1 in the December 2, 1999 site characterization report was omitted from the final version. This information needs to be included in the final version of the report.

Comment 25: Section 4.2.6 states that the highest groundwater elevation observed at the site was over 8 feet below the proposed secondary liner elevation (now at elev. 398.8 feet). The information in Table 2 of Appendix A, and on the geologic cross section in the November 3, 2000 submittal, indicates this statement is not correct (Table 2 indicates groundwater was as high as 397 feet). Therefore, the narrative in this section should be revised, as it is misleading.

Comment 60: Tables 1 and 2 in Specification 02245 (GCLs) the April 2, 2001 Design Report are not the same as the Tables in Appendix 13 in the January 22, 2001 Response to Comments Part III submittal. The record of comments to the draft design report does not indicate a reason for this difference. While it is acceptable, and even preferable, to have separate tables for the two GCLs that will be used, the specification for the minimum internal friction angle that was in the Response to Comments Part III were omitted from the tables in Revision 2 of Specification 02245. Several other changes were also made to this specification. Therefore, Specification 02245 and Section 6.2 (where applicable) need to be revised to address the following comments:

- a. Table 1 in the Response to Comments Part III that defined the properties of the Bentonite and geotextiles used in the GCL should be included in Specification 02245 – for both GCLs.
- b. Some explanation needs to be provided for why the required value for grab strength was reduced from 150 to 90 lbs and the frequency for testing permeability changed from 1/1,000,000 ft² to weekly in Specification 02245.
- c. The minimum internal friction angle (hydrated internal residual shear resistance), testing frequency, etc. need to be provided for both GCLs.
- d. Section 3.3, Installation, in Specification 02245 needs to clearly state which GCL gets installed on the base of the landfill, which one goes on the side slopes, and if on side of the GCL is required to be on top.
- e. Section 6.2 Conformance Testing of GCLs in Appendix F needs to be revised to state that conformance tests will be performed in accordance with the test methods and frequencies indicated in the specifications. The wording “other tests required by the project specifications” in this section should be revised to clearly indicate what these other tests are. Also, note that the minimum value and testing frequency for thickness are not specified in Specification 02245.
- f. The conformance testing in Section 6.2 of Appendix F needs to be revised to include determination of the internal friction angles of both GCLs once they are on-site.

New Comments

Section 1, Certification Statement: The standard RCRA certification wording at 35 AIC 702.126(d)(1) needs to be included in the P.E.’s certification. In addition, a certification from the facility owner/operator, using the wording at 35 IAC 702.126(d)(1), should also be provided.

Section 4.1.2, Liner System Location Relative to High Water Table: The minimum elevation of the secondary liner system used to be 400 feet msl. This section of the document now indicates the minimum elevation will be 398.8 feet. The historical high water elevation for the monitoring wells east of the Mississippi levee in the vicinity of the site was indicated to be between 397.0 and 400.3 feet. The recent (3rd quarter 1999) high groundwater level in the containment cell

vicinity was 399.0 feet. This section of the document needs to describe the impact of a water table that is above the bottom liner system on the construction and operation of the landfill. Will water be pumped from the capillary break layer sump if this condition is reached? What actions will be taken during a 100-year flood event (elev. 406 feet)? The response to this comment should be coordinated with the comment on Section 4.2.6 below.

OK per the April 20, 2001 conference call. (1) Gary Wantland, of URS did not recall why the elevation of the landfill was lowered by 1 foot. They did not deliberately lower the elevations. His best guess was that this is simply how the site elevations turned out. (2) In response to the concern about long-term problems with the liner system possibly being in contact with the water table, URS referred to the Figures 3-2 and 3-3 that show the bottom elevation for the capillary break layer relative to the water table and Table 2 in Appendix A that summarizes the recent groundwater elevations for the site. He did not feel that the water table would be high enough on a regular basis to force groundwater into the leachate detection system. He noted that his experience with landfill design and operation lead him to conclude that we should expected the leak detection system to be wet. However, he also noted that he did not see this as a problem.

Comments 15, 17, 18, 19, 22, 23, 25, 26, 27, 35, 36, et.al.: The responses to these comments states the comment is to be addressed in the December 29, 2000 Response to Comments Part III. This is not acceptable. The response to each of these comments, and the section(s) of the Design Report that were revised as a result of the comment, need to be included in this final version of the Design Report. Finally, there was no December 29, 2000 response to comments Part III. The Group III responses to comments were dated January 22, 2001.

OK per April 20, 2001 conference call. The responses to all comments are provided; not just referenced. The responses to Part III comments begin on page 1-72 and follow the Part II responses to comments.

Comment 25: The discussion regarding hydrostatic uplift in Section 4.2.6 and the calculations provided in Appendix B assumes a water elevation of 400 feet (which is approximately the same as the high water table elevation). The potential for hydrostatic uplift should be reevaluated using the 100-year flood elevation of 406 feet. An initial evaluation of this situation shows that the uplift pressure from a 100-year flood event would be greater than the weight of the liner system before waste is placed in the cell. Therefore, liner system could be damaged if the containment cell is exposed to 100-year flood conditions before waste is placed in the cell. The calculations and narrative in Section 4.2.6 may need to be revised based on this reevaluation.

OK per the April 20, 2001 conference call. (3) URS felt that using a water table elevation of 400 feet was conservative for the hydrostatic uplift calculations. He did not think that using the 100-yr flood elevation of 406 was reasonable given the site conditions or the timing for installation of the liner system. That is, the liner components should be installed during the driest part of the year. In addition, if the water table does start to rise, the contractor will immediately place pumps in the sumps and begin lowering the water table.

Sauget Area 1 TSCA Containment Cell Design Report
Rob Watson Review Notes

Appendix F: Section 7, Liner System Acceptance, of the CQA Manual for Installation of Geosynthetic Components is missing.

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